

559,651

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
7 October 2004 (07.10.2004)

PCT

(10) International Publication Number
WO 2004/085466 A2

(51) International Patent Classification⁷:

C07K 14/16

(21) International Application Number:

PCT/US2004/009767

(22) International Filing Date: 26 March 2004 (26.03.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/458,880 28 March 2003 (28.03.2003) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/085466 A2

(54) Title: IMMUNOGENIC HIV-1 MULTI-CLADE, MULTIVALENT CONSTRUCTS AND METHODS OF THEIR USE

(57) Abstract: Described herein are nucleic acid molecules which encode multiple highly conserved epitopes from HIV-1 proteins, and optionally also epitopes from CCR5; usually also included sequences that encode spacers between two or more of the epitopes. Some of the provided nucleic acid molecules further include sequences that encode targeting domains, useful for targeting the encoded protein into a pathway for enhancing epitope presentation in a vertebrate immune system. Also described are multivalent proteins encoded for by these nucleic acid molecules. The disclosure also encompasses immunogenic compositions that comprise one or more of the nucleic acid molecules, and/or one or more of the proteins encoded thereby, as well as methods of inducing an immune response against HIV-1 in a subject by administering to the subject an effective amount of a composition containing one or more of these molecules. Also provided are cultured host cells containing within them one or more of the described nucleic acid molecules.